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WASTEWATER INVENTORY, UPPER POTOMAC RIVER BASIN

Federal Water Pollution Control Administration
Charlottesville, Virginia

October 1969

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WASTEWATER INVENTORY

UPPER POTOMAC RIVER BASIN

October 1969

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CHAPTER I

PREFACE

The first complete inventory of water uses and wastewater loadings in the Potomac River Basin was compiled in 1958 by the U. S. Public Health Service. Since then numerous surveys, investigations, and inspections of these facilities have been conducted by various local, state, and federal agencies. These findings were consolidated in 1966, into a waste inventory as part of the President's Water Quality Sub-Task Force Study and distributed to the several state, county, and municipal agencies involved. It has been continuously updated and revised.

Since 1958, other parameters such as nutrients have become a significant factor in water quality management. The need for current waste discharge data continues. Knowledge of existing and past water use and wastewater loadings is essential in providing for water quality management in any river basin.

CHAPTER II

INTRODUCTION

A. Purpose and Scope

In accordance with Recommendation 14 of the Potomac Enforcement Conference, the Federal Water Pollution Control Administration, Middle Atlantic Region, in cooperation with the Interstate Commission on the Potomac, the States of Maryland, Virginia and West Virginia has undertaken a joint water quality study of the Upper Potomac Basin. An essential part of the investigation is the compilation of a current inventory of all wastewater discharges in the Upper Basin.

Presented in this report is a complete inventory of all reported wastewater discharges including:

1. Population Served
2. Wastewater Index
3. Wastewater Flow (mgd)
4. Untreated BOD (#/day)
5. Treated BOD (#/day)
6. % BOD Removal
7. Phosphorus in effluent (#/day)
8. Nitrogen in effluent (#/day)
9. Receiving Stream
10. Remarks

The preceding information is presented in detail and summary form by sub-regions, fourteen in all. Maps showing major municipal, industrial-biodegradable, and thermal wastewater discharges are also presented.

B. Acknowledgements

The assistance and cooperation of various governmental and institutional agencies together with the industries in the basin enabled the

Middle Atlantic Region to collect and assemble data in what would otherwise have taken a much longer period of time. While every agency and industry contacted provided valuable assistance, the cooperation of the governmental agencies and industries who participated in the sampling program is greatly appreciated.

CHAPTER III

SUMMARY

As of October 1969, there are 271 known wastewater discharges in the Upper Potomac River Basin. From the detailed inventory presented in Chapter V, the following information has been summarized:

1. There are about 420,700 people served by 135 domestic wastewater treatment facilities in the Upper Basin. (See Figure III - 1 for major municipal wastewater discharges in the Potomac River Basin)
2. There are 14 industrial biodegradable wastewater discharges producing about 77,600 #/day of biochemical oxygen demand (BOD) of which approximately 60% is removed by wastewater treatment.
3. The wastewater BOD loading for the Upper Basin is presented below:

Waste Type	Before Treatment (#/day)	% of Total	After Treatment (#/day)	% of Total
Sanitary	117,500	42	44,400	38
Industrial	161,000	58	73,200	62
Total	278,500	100	117,600	100

4. Industry in the Upper Basin discharges about 62% of the total BOD loadings. (See Figure III - 2 for major industrial wastewater discharges in the Potomac River Basin)
5. In the Upper Basin, there are 26 industrial and municipal facilities discharging a total of 1,180 million gallons per day of cooling water. (See Figure III - 3 for major thermal discharges in the Potomac River Basin)

6. The nutrient wastewater loadings (phosphorus (PO_4) and total Kjeldahl nitrogen (TKN) as N) discharged into the surface water of the basin are presented below:

Waste Type	PO_4 (#/day)	% of Total	TKN (#/day)	% of Total
Sanitary	10,400	58	5,900	55
Industrial	7,600	42	4,900	45
Total	18,000	100	10,800	100

FIGURE II-1

MAJOR MUNICIPAL WASTEWATER DISCHARGES

POTOMAC RIVER BASIN

Chesapeake Tidal Water

EPA/CA

FIGURE 2

MAJOR INDUSTRIAL WASTEWATER DISCHARGES

POTOMAC RIVER BASIN

Chesapeake Field Station

FWPCA

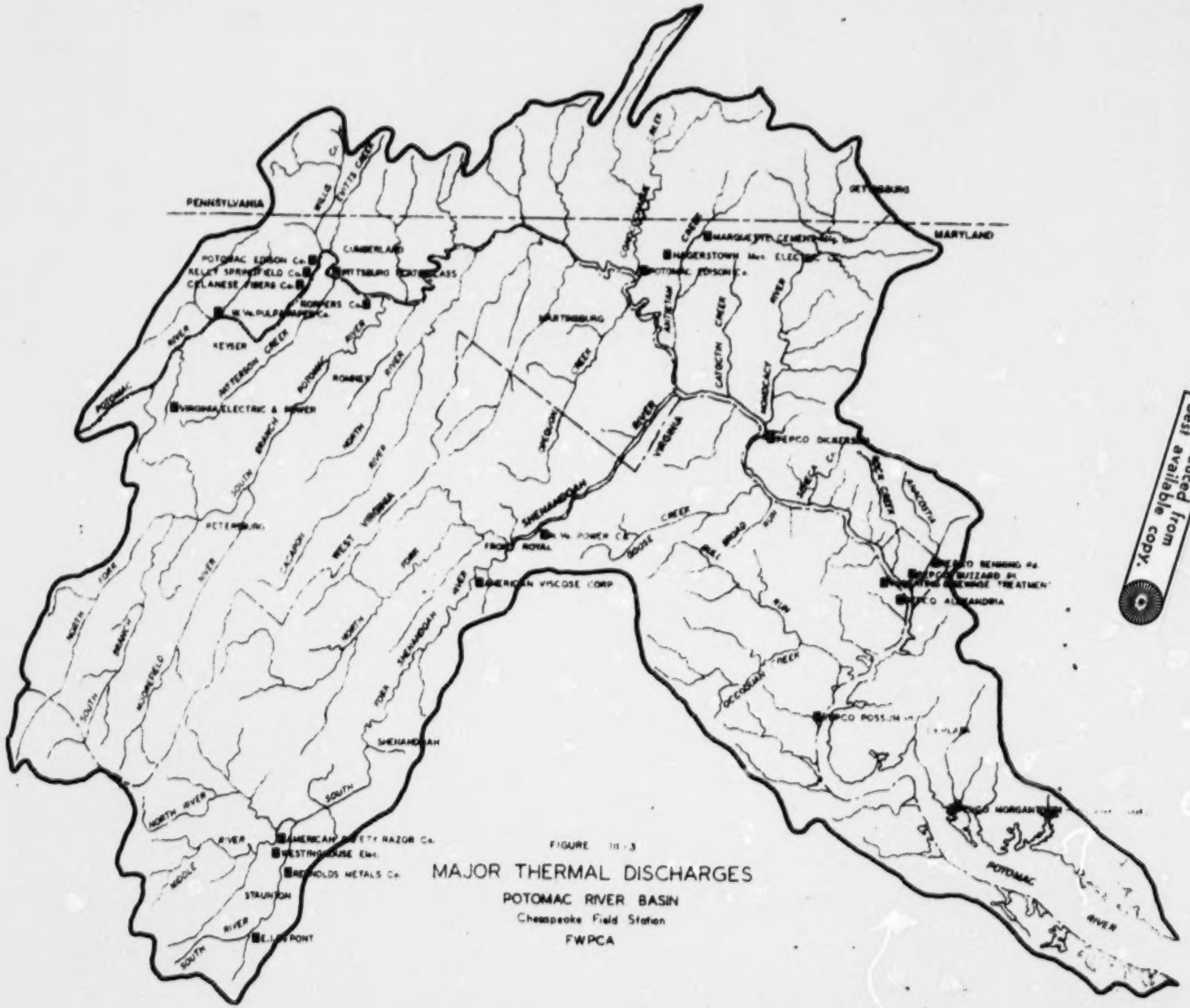

FIGURE III-3

MAJOR THERMAL DISCHARGES

POTOMAC RIVER BASIN

Chesapeake Field Station

FWPCA

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CHAPTER IV

DATA SOURCES AND PRESENTATION

A. Data Sources

The information used in compiling the wastewater inventory was obtained from many sources including:

1. The 1964 cooperative industrial water use survey for the Chesapeake Bay-Susquehanna River Basins Project (Formerly by the Public Health Service of the U. S. Department of Health, Education, and Welfare, and now by the Federal Water Pollution Control Administration of the U. S. Department of the Interior)
2. Wastewater treatment records and inventories as compiled by the various state agencies in Virginia, West Virginia, Maryland and Pennsylvania.
3. Wastewater inventory prepared in 1966 as part of the President's Sub Task Force on water quality and the subsequent cooperative wastewater surveys.

All municipal discharges having a wastewater flow greater than 1.0 mgd and all industries with biodegradable waste with a flow greater than 0.5 mgd were sampled during 1968. For most of these discharges, three 24-hour composites were obtained and analyzed for BOD, PO_4, and TKN. Wastewater loadings for the remainder of the facilities were determined from either 8-hour composites, grab samples, or from assumed values. For the latter the following assumptions were used:

Domestic Wastewater Flow	100 gcd
Untreated BOD (Mainly Domestic)	200 mg/l
Untreated BOD (Highly Industrial)	250 mg/l
BOD Removal - Primary Plants	35 %
BOD Removal - Secondary Plants	85 %
Phosphorus - (PO_4 as PO_4)	30 mg/l*
Nitrogen - (TKN as N)	17 mg/l*

The flows and loadings presented in this report are considered to be average annual values for the 1968 calendar year.

B. Data Presentation

In the detailed inventory presented in Chapter V, the following abbreviations are used:

NA = Not Applicable

UNK = Unknown

ST = Septic Tanks

* = Wastewater Discharge for Municipal System

An industrial wastewater grouping which was developed by the Chesapeake Technical Support Laboratory was used to classify and index the discharges. (See Table IV - 1)

*These are average concentrations as determined in a nutrient survey during 1966.

Table IV - 1

INDUSTRIAL WAST WATER CLASSIFICATION AND INDEX

A. SANITARY (San.)

1. Municipal, Institutional, etc.
2. Industrial
3. Unincorporated areas

B. INDUSTRIAL BIOLOGICAL WASTES (I-Biol.)

1. Tanneries and Leather Trades
2. Pharmaceuticals (antibiotics, biologicals; e.g., penicillin)
3. Alcohol Industries (brewing and distilling)
4. Miscellaneous Fermentation Industries
5. Glue, Size, and Gelatine Plants
6. Wool Scouring
7. Textile Manufacture (natural fibers; e.g., cotton, wool, silk, flax)
8. Floor-cloth Manufacture
9. Laundries
10. Paper
11. Pulp

C. FOOD PROCESSING WASTES (Food)

1. Canneries
2. Meat Packing, Slaughterhouse, and Related Trades
3. Poultry
4. Milk and Dairy Wastes
5. Corn Products Plants
6. Beet Sugar Factories
7. Cane Sugar Factories
8. Fish Processing Plants
9. Other Food Processing and Dehydration Plants
10. Citrus
11. Beverages (soft drinks)

D. AGRICULTURAL AND URBAN RUNOFF (Agric.)

1. Piggeries
2. Chicken Yards

E. HYDROCARBON WASTES (Hy-Car.)

1. Oil Wells
2. Petroleum Refining

3. Styrene Manufacture
4. Co-polymer Rubber Plants
5. Butadiene Plants
6. Natural Rubber Processing
7. Petrol Stations, Garages, Engineering Works
8. Aircraft Maintenance

F. PHENOLIC WASTES (Pheno.)

1. Gas Plants and By-product Coke Plants
2. Tar Distillation, Road Oil, and Cresoting Plants
3. Chemical Plants
4. Synthetic Resin Plants
5. Wood Distillation
6. Dye Manufacturing

G. MISCELLANEOUS ORGANIC CHEMICAL WASTES (Organ.)

1. Munition Plants (e.g. TNT, Tetryl, Ammonium picrate, etc.)
2. Synthetic Pharmaceuticals
3. Synthetic or Man-made Textile Fibers (e.g., rayon, nylon, etc.)
4. Organic Chemical Manufacture
5. Paints and Varnishes
6. Oil and Grease Processing and Refining

H. COOLING WASTES (Cool.)

1. Cooling Water for Condensers
2. Boiler Blow-off

I. WASTES CHIEFLY MINERAL IN NATURE, WITH POSSIBLE MINOR ORGANICS (Miner.)

1. Brine Wastes
2. Mineral Washing Slurries and Suspensions (e.g., stone sawing, sand and china clay washing)
3. Mine Drainage (pit water from coal mines)
4. Pickle Liquor Waste (e.g., iron and copper pickling, galvanizing)
5. Electro-plating
6. Water Softening
7. Inorganic Chemical Manufacturing Wastes
8. Battery Manufacture
9. Coal-washing
10. Inorganic Pigments
11. Photographic Wastes

J. RADIOACTIVE WASTES (Rad.)

(e.g., atomic energy plants and experimental stations; hospitals and industries using radioactive isotopes)

CHAPTER V

WASTEWATER INVENTORY TABLES

Table V - 1

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

North Branch Potomac River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Virginia Electric & Power (Mt. Storm, W. Va.)	NA	Cool.	H-1	720.000	NA	NA	NA	NA	NA	-	Mt. Storm Lake	Acid-Low Ph
	NA	Cool.	H-2	Unk	NA	NA	NA	NA	NA	-	Stoney River	Intermittent From Mining acti
Bayard, W. Va.	470	San.	A-1	0.060	100	100	0	15	8	-	Buffalo Creek	Have severe
Alpine Coal Co. (Island Creek Coal Co.) (Henry, W. Va.)	NA	Miner.	I-3	0.380	NA	NA	NA	NA	NA	-	Elk Run	Coal washer
	NA	Miner.	I-3	Unk	NA	NA	NA	NA	NA	-	Decken Run	Active mine
N. Branch Coal Co. (Island Creek Coal Co.) (Bayard, W. Va.)	NA	Miner.	I-3	0.300	NA	NA	NA	NA	NA	-	L. Buffalo Creek	Coal washer
	NA	Miner.	I-3	Unk	NA	NA	NA	NA	NA	-	L. Buffalo Creek	Active mine
	NA	Miner.	I-3	Unk	NA	NA	NA	NA	NA	-	L. Buffalo Creek	Gob pile seepage
Kitzmiller, Md.	580	San.	A-1	0.070	115	0	0	0	0	-	To Septic Tanks	
Masteller Coal Co. (Hampshire, W. Va.)	NA	Miner.	I-3	Unk	NA	NA	NA	NA	NA	-	Piney Swamp Run	Coal screening
Luke, Md.	900	San.	A-1	0.110	NA	NA	NA	NA	NA	-	To UPRC Plant	
W. Va. Pulp & Paper Co. (Luke, Md.)	NA	I-Biol.	B-11	11.000	16,000	16,000	0	1,100	230	-	N. Br. Potomac R.	Plans to treat
		I-Biol.	B-11	20.000*	NA	NA	NA	NA	NA	-	To UPRC Plant	
		Cool.	H-1	45.000	NA	NA	NA	NA	NA	-	N. Br. Potomac R.	
Frostburg, Md.	5,500*	San.	A-1	0.550*	NA	NA	NA	NA	NA	-	To Cumb. STP	
Lotz Wholesale Meat Co. (Frostburg, Md.)	NA	Food	C-2	0.001	2	1	35	1	1	-	Sandspring Run	
Borden Shaft, Md.	192	San.	A-2	0.004	8	8	0	1	1	-	Georges Creek	
Midland, Md.	650	San.	A-1	0.080	130	130	0	26	15	-	Georges Creek	
Lonaconing, Md.	2,000	San.	A-1	0.240	400	400	0	78	44	-	Georges Creek	
Barton, Md.	540	San.	A-1	0.100	170	170	0	32	18	-	Georges Creek	
Rawlings Hts. Md.	800	San	A-1	0.08	Unk	Unk	Unk	Unk	Unk	-	Mill Run	Lagoon

Table V - 1 (cont.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	T. PO_4 (#/day)	Effluent TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Martin Marietta Co. Manley Sand Div. (Cumberland, Md.)	NA	Miner.	I-2	0.000	NA	NA	NA	NA	NA	-	Wills Creek	Closed system
Queens City Brewing (Cumberland, Md.)	NA	I-Biol.	B-3	0.300	500	500	0	50	50	-	Wills Creek	
LaVale, Md.	4,000*	San.	A-1	0.400*	NA	NA	NA	NA	NA	-	To Cumb. STP	
Kelly Springfield Co. (Cumberland, Md.)	NA	Cool.	H-2	4.800	NA	NA	NA	NA	NA	-	N. Br. Potomac R.	
Potomac Edison Co. (Cumberland, Md.)	NA	Cool.	H-1	45.000	NA	NA	NA	NA	NA	-	N. Br. Potomac R.	Maximum use
Ridgeley, W. Va.	1,600*	San.	A-1	0.160*	NA	Unk	0	Unk	Unk	-	N. Branch Potomac R.	No treatment
Cumberland, Md.	55,000	San.	A-1	5.200	11,260	6,930	49	950	560	-	N. Br. Potomac R.	Primary
Pittsburg Plate Glass (Cumberland, Md.)	NA	San.	A-2	0.260	430	280	35	64	37	-	N. Br. Potomac R.	
		Organ.	G-2	2.200	Unk	256	Unk	70	270	-	" " "	Lagoons
Burlington, W. Va.	360	San.	A-3	0.050	83	ST	ST	ST	ST	-	Patterson Creek	No collection system
Ft. Ashby, W. Va.	900	San.	A-3	0.120	200	ST	ST	ST	ST	-	Patterson Creek	No collection system
Patterson Creek, W. Va.	315	San.	A-3	0.040	67	ST	ST	ST	ST	-	Patterson Creek	No collection system
Koppers Co. (Green Spring, W. Va.)	NA	San.	A-2	0.002	20	3	85	1	1	-	N. Br. Potomac R.	Small ponds
		Pheno.	F-2	0.010	660	100	85	0	0	-		
		Cool.	H-1	0.020	NA	NA	NA	NA	NA	-		
Cumberland Charcoal Co. (Beryl, W. Va.)	NA	Miner.	I-3	Unk	Unk	Unk	Unk	Unk	Unk	-	Patterson Creek	Hauled to area by truck

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Table V - 1 (cont.)

North Branch Potomac River Basin (cont.)

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Piedmont, W. Va.	3,000*	San.	A-1	0.180*	NA	NA	NA	NA	NA	-	To UPRC Plant	
Westernport, Md.	5,000	I-Biol.	B-10	21.000	41,000	5,300	87	700	210	-	North Br. Potomac R.	UPRC Plant
Keyser, W. Va.	6,500	San.	A-1	0.620	8,500	4,100	52	125	85	-	N. Br. Potomac R.	New plant
Bel-Air - Pinto, Md.	400	San.	A-1	0.070	120	48	60	14	7	-	N. Br. Potomac R.	Lagoon
Hercules Powder Co. Allegany Ballistics Lab. (Rocket Center, W. Va.)	NA	San.	A-2	0.050	83	12	85	12	6	-	N. Br. Potomac R.	
	NA	Organ.	G-1	0.000	0	0	NA	0	0	-	N. Br. Potomac R.	
Mason Dairy Co. (Cresaptown, Md.)	NA	Food	C-4	0.040	100	100	0	10	6	-	N. Br. Potomac R.	
Cresaptown, Md.	3,500	San.	A-1	0.070	240	95	60	23	14	-	W. Br. Potomac R.	Primary
Celanese Fibers Co. (Amcelle, Md.)	NA	Organ.	G-4	3.000	25,000	25,000	0	1,500	125	-	N. Br. Potomac R.	Plans to treat
		Cool.	H-1	58.000	NA	NA	NA	NA	NA	-	" " "	
		Cool.	H-2	2.000	NA	NA	NA	NA	NA	-	" " "	
Potomac Edison (Amcelle, Md.)	NA	Cool.	H-1	0.600	NA	NA	NA	NA	NA	-	N. Br. Potomac R.	Makes power for Celanese Corp.
Bowling Green, Md.	2,250	San.	A-1	0.200	380	180	52	30	40	-	N. Br. Potomac R.	Primary
Hyndman, Pa.	1,124	San.	A-1	0.100	170	170	0	32	18	-	Wills Creek	No plant-Legal action taken
Wellersburg, Pa.	50	San.	A-1	0.0025	8.5	8.5	0	6	3	-	Wills Creek	No plant
Martin Marietta Co. Appalachian Stone Div. (Cumberland, Md.)	NA	Miner.	I-2	0.020	0	0	0	0	0	-	Wills Creek	
Cumberland Cement & Supply Co. (Cumberland, Md.)	NA	Miner.	I-2	0.000	NA	NA	NA	NA	NA	-	Wills Creek	Closed system

Table V - 2

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

South Branch and Upper Potomac River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Monterey, Va.	300	San.	A-1	0.050	[illegible]	[illegible]	35	12	7	-	Strait Creek	Imhoff
Franklin, W. Va.	700	San.	A-1	0.045	[illegible]5	11	85	11	[illegible]	-	S. Br. Potomac R.	New plant
Circleville, W. Va.	150	San.	A-1	0.001	2	ST	ST	ST	ST	-	S. Br. Potomac R.	Septic tanks
Petersburg, W. Va.	4,200	San.	A-1	0.270	360	75	80	84	48	-	S. Br. Potomac R.	Primary
Loewengart & Co. (Petersburg, W. Va.)	NA	I-Biol.	B-1	0.140	1,290	790	39	25	23	-	S. Br. Potomac R.	Lagoons
Moorefield, W. Va.	1,500	San.	A-1	0.040	270	240	35	42	24	-	Moorefield River	Plans for secondary 50% sewer
Pierce Pre-cooked Foods (Moorefield, W. Va.)	NA	Food	C-9	0.018*	NA	NA	NA	NA	NA	-	Moorefield River .	Grease Removal To be routed to Moorefield STP
Rockingham Poultry (Moorefield, W. Va.)	NA	Food	C-3	0.150	900	670	12	20	40	-	Moorefield River	Plans to treat To be routed to Moorefield STP
Romney, W. Va.	3,000	San.	A-1	0.340	560	200	65	70	50	-	S. Br. Potomac R.	
Hampshire High School (Romney, W. Va.)	518	San.	A-1	0.002	3	1	85	5	3	-	S. Br. Potomac R.	Package plant
School for Deaf (Romney, W. Va.)	340	San.	A-1	0.040	65	43	35	10	6	-	S. Br. Potomac R.	Septic tanks
Paw Paw, W. Va.	790	San.	A-1	0.100	170	51	70	25	14	-	Potomac River	Lagoon
Lost River State Park (Hardy County, W. Va.)	800	San.	A-1	0.020	25	4	85	5	3	-	Cacapon River	Septic tanks
Berkeley Springs, W. Va.	1,140	San.	A-1	0.170	280	280	0	55	31	-	Warm Spring Run	Under orders
Aulabaugh Bros. (Berkeley Springs, W. Va.)	NA	Food	C-1	0.018	45	45	0	5	3	-	Warm Spring Run	Seasonal
Pennsylvania Glass-Sand Co. (Berkeley Springs, W. Va.)	NA	San.	A-2	0.060	100	65	35	15	9	-	Warm Spring Run	Impoundments Septic tanks
		Miner.	I-2	0.180	NA	NA	NA	NA	NA	-	" " "	Clarification Equipment Sedimentation (Minor)

Table V - 2 (cont.)

South Branch and Upper Potomac River Basin (cont.)

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Little Miss Canning Co. (Berkeley Spring, W. Va.)	NA	Food	C-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Warm Spring Run	Lagoon Seasonal
H.B. Mellot (Bethel, Pa.)	NA	Miner.	I-2	0.160	NA	NA	NA	NA	NA	-	Tonoloway Creek	
Hancock, Md.	2,000	San.	A-1	0.380	630	45	92	93	54	-	Potomac River	Lagoon
McConnelsburg, Pa.	1,250	San.	A-1	0.250	494	49	90	61	35	-	Licking Creek	
Jones Springs, W. Va.	135	San.	A-3	0.016	27	27	0	5	3	-	Back Creek	
Hodgesville, W. Va.	380	San.	A-1	0.047	78	78	0	15	9	-	Back Creek	
Virginia Glass Co. (Gore, Va.)	NA	Miner.	I-2	0.900	NA	NA	NA	NA	NA	-	Back Creek	

Table V - 3

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Opequon Creek

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent $T. PO_4$ (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Winchester, Va.	18,000	San.	A-1	2.400	5,700	460	91	400	260	-	Abrams Creek	Varies seasonally
O'Sullivan Rubber Co. (Winchester, Va.)	NA	San.	A-2	0.025	40	20	35	5	2	-	Abrams Creek	
		Hy-Car.	E-6	2.000	Unk	Unk	0	Unk	Unk	-	Abrams Creek	
Clearbrook Woolen Mills (Winchester, Va.)	NA	I-Biol.	B-6	0.200	Unk	Unk	Unk	Unk	Unk	-	Clearbrook Creek	
Middleway, W. Va.	685	San.	A-1	0.090	150	98	35	22	13	-	Opequon Creek	Septic tanks
Minn. Mining & Mfg. Co. (Middleway, W. Va.)	NA	San.	A-2	0.007	Unk	Unk	Unk	Unk	Unk	-	Turkey Run	New Facility
		Organ.	G-4	0.606	Unk	Unk	Unk	Unk	Unk	-	" "	
		Cool.	H-2	0.013	NA	NA	NA	NA	NA	-	" "	
Inwood, W. Va.	420	San.	A-1	0.050	80	80	0	16	9	-	Opequon Creek	Septic tanks
Musselman - Pet Milk Co. (Inwood, W. Va.)	NA	Food	C-9	0.300	3,750	1,500	60	74	42	-	Opequon Creek	Seasonal
Leetown, W. Va.	110	San.	A-1	0.030	45	45	0	10	5	-	Opequon Creek	Septic tanks
Kearneysville, W. Va.	550	San.	A-1	0.080	100	100	0	26	15	-	Opequon Creek	Septics tanks
Martinsburg, W. Va.	15,000	San.	A-1	1.500	3,750	950	88	250	85	-	Opequon Creek	
Corning Glass Works (Martinsburg, W. Va.)	NA	San.	A-2	0.525	75	35	64	2	1	-	Buzzard Run	
		Cool.	H-1	0.325	NA	NA	NA	NA	NA	-	" "	
Standard Lime and Stone Co. (Martinsburg, W. Va.)	NA	San.	A-2	0.020	33	21	35	5	3	-	Opequon Creek	Septic tanks
		Miner.	I-2	0.980	NA	NA	NA	NA	NA	-	Opequon Creek	Quarry drainage
Jones & Laughlin Steel Co. - Blair Limestone Div. (Martinsburg, W. Va.)	NA	San.	A-2	0.002	3	1	85	1	1	-	Opequon Creek	Septic tanks
		Miner.	I-2	0.550	NA	NA	NA	NA	NA	-	Opequon Creek	Settling ponds
E.I. DuPont de Nemours & Co. (Martinsburg, W. Va.)	NA	Organ.	G-4	0.079	15	10	33	6	35	-	Opequon Creek	
		Cool.	H-1	0.400	NA	NA	NA	NA	NA	-	Opequon Creek	
The Veterans Administration Center (Martinsburg, W. Va.)	1,700	San.	A-1	0.200	290	165	43	5	Unk.	-	Opequon Creek	High nitrates 1,000 ppm BOD Removal should increase 90% when secondary units comp.

Table V - 4

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Conococheague Creek and Upper Middle Potomac River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Chambersburg, Pa.	17,000	San.	A-1	1.89	8,196	662	91	560	245	-	Conococheague Creek	
H.J. Heinz Co. (Chambersburg, Pa.)	NA	Food	C-1	0.430	2,900	290	99	106	61	-	Conococheague Creek	
Scotland Orphanage, Pa.	850	San.	A-1	0.100	232	35	85	25	14	-	Conococheague Creek	
Dixon TB Hospital, Pa.	1,700	San.	A-1	0.300	600	46	92	74	42	-	Conococheague Creek	
Letterkenny Ord. Depot	NA	Hy-Car.	E-7	0.050	160	8	95	12	7	-	Conococheague Creek	
		San.	A-1	0.024	70	7	90	6	3	-	Conococheague Creek	
Loesengart & Co. (Mercersburg, Pa.)	NA	I-Biol.	B-1	0.200	3,320	500	85			-	West Branch	
Metal Twp. (Perma.)	NA	San.	A-1	0.010	160	24	85	2	1	-	West Branch	
Mercersburg, Pa.	2,300	San.	A-1	0.220	400	60	85	54	31	-	West Branch	
Greencastle, Pa.	3,000	San.	A-1	0.301	298	36	88	45	26	-	Conococheague Creek	
Anne Mariata (Antrim, Pa.)	NA	Food	C-2	0.070	700	35	95	17	10	-	Conococheague Creek	
W.D. Byron Co. (Williamsport, Md.)	NA	I-Biol.	B-1	0.370	3,000	1,290	64	10	155	-	Conococheague Creek	
Williamsport, Md.	1,900	San.	A-1	0.233	489	350	13	124	54	-	Potomac River	Primary
Potomac Edison Co. (Williamsport, Md.)	NA	Miner.	I-2	0.405	NA	NA	NA	NA	NA	-	Potomac River	
		Cool.	B-1	234.000	NA	NA	NA	NA	NA	-	Potomac River	234.0 mgd maximum

Table V - 5

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Antietam and Middle Potomac River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	T. SS (#/day)	Effluent TSS (#/day)	Other (#/day)	Receiving Stream	Remarks
Shepherdstown, W. Va.	1,300	San.	A-1	0.140	233	233	0	45	26	-	Potomac River	
Fayetteville, Pa.	2,700	San.	A-1	0.060	100	0	100	0	0	-	To Land	
Mont Alto, Pa.	900	San.	A-1	0.063	105	0	100	0	0	-	To Land	
Waynesboro, Pa.	11,000	San.	A-1	1.968	2,100	285	86	275	145	-	Antietam Creek	
E.U.B. Orphanage, Pa.	433	San.	A-1	0.026	48	5	90	5	3	-	Antietam Creek	
Ft. Ritchie, Md.	1,500	San.	A-1	0.140	8.2	2	99	34	17	-	Red Run	
Smithsburg, Md.	680	San.	A-1	0.090	210	5	99	20	13	-	Beaver Creek	Secondary
Doubleday & Co. (Smithsburg, Md.)	NA	San.	A-2	0.003	5	1	85	1	1	-	Beaver Creek	Extended Aer.
		Miner.	I-6	0.035	NA	NA	NA	NA	NA	-	Beaver Creek	Plating - Batch Treatment
Mont Alto, Pa. Campus	450	San.	A-1	0.024	55	5	90	0	0		W. Br. Antietam Cr.	
Marquette Cement Mfg. Co. (Hagerstown, Md.)	NA	Cool.	H-2	8.100	NA	NA	NA	NA	NA	-	Antietam Creek	
Hagerstown, Md.	36,000	San.	A-1	5.582	15,250	6,900	55	1,800	570	-	Antietam Creek	
Western Md. R.R. (Hagerstown, Md.)	NA	Hy-Car.	H-7	0.133	NA	NA	NA	NA	NA	-	Antietam Creek	Oil
Hagerstown Mun. Electric Co. (Hagerstown, Md.)	NA	Cool.	H-1	33.400	NA	NA	NA	NA	NA	-	Antietam Creek	Cooling towers
Fairchild Hiller Corp. (Hagerstown, Md.)	NA	San.	A-2	0.250							Antietam Creek	
	NA	San.	A-2	0.180	300	45	85	44	25	-	Antietam Creek	Tertiary
		Miner.	I-5	0.470	NA	NA	NA	NA	NA	-	" "	Plating - batch treatment
Funkstown, Md.	970	San.	A-1	0.080	133	20	85	20	11	-	Antietam Creek	Lagoon
Halfway, Md.	2,500	San.	A-1	0.250	362	260	89	61	35	-	Potomac River	Halfway Sanitary Dist.

Table V - 5 (cont.)

Antietam and Middle Potomac River Basin (cont.)

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Md. State Reformitory (Breadthsville, Md.)	1,250	San.	A-1	0.060	100	15	85	15	9	-	Antietam Creek	Secondary
Boonsboro, Md.	1,200	San.	A-1	0.060	100	15	85	15	9	-	Beaver Creek	Lagoon
Keedysville, Md.	320	San.	A-1	0.050	83	83	0	16	9	-	Antietam Creek	
Sharpsburg, Md.	780	San.	A-1	0.100	167	109	35	25	14	-	Potomac River	
Highland View Academy	300	San.	A-1	0.030	Unk	Unk	Unk	Unk	Unk		L. Beaver Creek	Secondary
Hunter Hills Apts.	300	San.	A-1	0.030	Unk	Unk	Unk	Unk	Unk		Antietam Creek	Extended

Table V - 6

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

North Fork Shenandoah River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Fulks Run E.S. (Rockingham Co.) (Harrisonburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	N. Fork Shen.	School
Valley Trailer Park & Sales (Harrisonburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Linville Creek	
Triangle "E" By-Products Co., Inc. (Linville, Va.)	NA	Food	C-9	0.070	270	0	100	0	0	-	Linville Creek	Lagoon
Broadway, Va.	[illegible]	San.	A-1	0.130	217	33	85	32	18	-	Linville Creek	Lagoon
Nat. Fruit Prod. Corp. (Timberville, Va.)	NA	Food	C-9	0.010	250	0	100	0	0	-	Spray, Irrigation	Seasonal
Rockingham Poultry Corp. (Timberville, Va.)	NA	Food	C-3	0.500	9,500	630	85	123	71	-	N. Fork Shen.	
Shen. Valley Packers (Timberville, Va.)	NA	Food	C-3	0.200	4,300	290	85	49	28	-	N. Fork Shen.	
Timberville, Va.	412	San.	A-1	0.015	25	3	90	4	2	-	N. Fork Shen.	New plant
Valley Housing Corp. Va. (Timberville, Va.)	NA	Food	C-2	0.004	NA	NA	NA	NA	NA	-	To Timberville	
Baker Dairy (Timberville, Va.)	NA	Food	C-9	Unk	Unk	Unk	Unk	Unk	Unk	-	N. Fork Shen.	
Convict Camp #8 (Rockingham Co.) (Harrisonburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. N. Fork Shen.	
New Market, Va.	885	San.	A-1	0.350	885	354	60	86	50	-	N. Fork Shen.	
Caroline Foods Textron Poultry Inc. (New Market, Va.)	NA	Food	C-3	0.170	Unk	Unk	Unk	Unk	Unk	-	Smiths Creek	Expanding system

Table V - 6 (cont.)

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

North Fork Shenandoah River Basin (cont.)

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Stonewall Jackson H.S. (Shenandoah Co., Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	N. Fork Shen.	School
Mt. Jackson, Va.	722	San.	A-1	0.110	183	128	30	27	16	-	N. Fork Shen.	New plant
Bowman Apple Products Co., Inc. (Mt. Jackson, Va.)	NA	Food	C-1	Unk	Unk	Unk	Unk	Unk	Unk	-	N. Fork Shen.	
Interstate #1 Rest Area (Rockingham Co., Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Smiths Creek	
Edinburg, Va.	517	San.	A-1	0.080	133	93	30	20	11	-	Stoney Creek	
Blue Ridge Poultry & Egg Co. (Edinburg, Va.)	NA	Food	C-3	0.070	7,500	750	90	17	10	-	Tr. Stoney Creek	Under Board order
Shenandoah Mg. Inc. (Edinburg, Va.)	NA	I-Biol.	B-7	0.300	1,150	170	85	74	42	-	N. Fork Shen.	
Woodstock, Va.	2,083	San.	A-1	0.350	570	88	85	86	50	-	N. Fork Shen.	
Bowman Apple Products Co., Inc. (Maurertown, Va.)	NA	Food	C-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. N. Fork Shen.	
Strasburg, Va.	2,428	San.	A-1	0.300	500	100	80	74	42	-	N. Fork Shen.	
Chemstone Corp. (Strasburg, Va.)	NA	Miner.	I-2	Unk	Unk	Unk	Unk	Unk	Unk	-	Cedar Creek	
Stone Shop Diner (Strasburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Cedar Creek	

Table V - 7

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

North River at the South Fork Shenandoah River Basin

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent $T. PO_4$ (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Mount Clinton E. S. (Hinton, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Muddy Creek	
Va. Valley Processes, Inc. (Hinton, Va.)	NA	Food	C-2	0.100	3,300	1,000	30	25	14	-	Muddy Creek	
		San.	A-2	0.001	2	2	0	1	1	-	" "	
Turner-Ashby H.S. (Dayton, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Cooks Creek	
Bridgewater, Va.	1,815	San.	A-1	0.260	433	360	30	64	37	-	No. R. S. Fork	New Plant
Dayton, Va.	930	San.	A-1	0.160	267	21	92	39	23	-	Grassy Run	
Neff Trailer Sales (Harrisonburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Blacks Run	
Package Corp. of Amer. (Harrisonburg, Va.)	NA	I-Biol.	B-10	0.020	20	2	90	0	0	-	Blacks Run	
Harrisonburg, Va.	17,500	San.	A-1	2.250	4,900	1,110	75	650	420	-	Blacks Run	
Belle Meade Motel (Harrisonburg, Va.)	NA	San.	A-1	0.010	17	4	80	3	1	-	Blacks Run	Lagoon
Holiday Inn (Harrisonburg, Va.)	NA	San.	A-1	0.010	17	3	85	3	1	-	Blacks Run	Lagoon
Pleasant Valley E.S. (Harrisonburg, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Blacks Run	
Weyers Cave Sanitary District (August Co., Va.)	2,200 Design	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	No. R. S. Fork	New Plant Extended aeration

Table V - 8

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Middle River of South Fork Shenandoah River Basin

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent $T. PO_4$ (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Buffalo Gap H.S. (Augusta Co., Va.)	1,000	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Buffalo Br.	Septic Tank Sand filter
Verona San. Dist. (Verona, Va.)	NA	San.	A-1	0.130	217	33	85	32	18	-	Middle River	Pr. settling & lagoon
Ingleside Hotel & Motel (Staunton, Va.)	600 Design	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. Middle River	Lagoon
Westinghouse Electric (Verona, Va.)	NA	Cool.	H-1	0.600*	NA	NA	NA	NA	NA	-	City Sewers	San. & I.W. to City sewers; cooling to S. River
Amer. Safety Razor Co. (Verona, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk		City Sewer	
		Cool.	H-1	0.350	NA	NA	NA	NA	NA	-	Middle River	Do treat
		Miner.	I-4	0.160	NA	NA	None	NA	NA	-	" "	metals
Staunton, Va.	25,000	San.	A-1	1,500	2,030	410	80	300	160	-	Lewis Creek	Trickling filter
Augusta Dairies Staunton, Va.)	NA	San.	A-1	0.040*	NA	NA	NA	NA	NA	-	City Sewers	
	NA	Cool.	H-1	0.070	NA	NA	NA	NA	NA	-	Christians Creek	
Riverheads H.S. (August Co., Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. Christians Creek	
Staunton Plaza Shopping Center (Staunton, Va.	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. Christians Creek	
De Jarnette Sanitar. (Staunton, Va.)	225 design	San.	A-1	0.030	50	8	85	7	4	-	Christians Creek	Trickling filter
Woodrow Wilson Educational Center (Staunton, Va.)	NA	San.	A-1	0.040	66	10	Unk	10	6	-	Christians Creek	
Western St. Hospital (Staunton, Va.)	1,500	San.	A-1	0.250	450	70	85	61	35	-	Christians Creek	
Fort Defiance H.S. (August Co., Va.)	1,000	San.	A-1	16,000	Unk	Unk	Unk	Unk	Unk	-	Trib. Middle R.	Septic tank; sand filter

Table V - 8

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Middle River of South Fork Shenandoah River Basin (cont.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Grottoes Sand & Gravel (Grottoes, Va.)	NA	Miner.	I-2	-	NA	NA	NA	NA	NA	-	Middle River	Lagoon
Mt. Sidney, Va.	300	San.	A-1	0.012	20	3	85	3	2	-	Middle River	

Table V - 9

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

South River of South Fork Shenandoah River Basin

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Convict Road Camp #10 (Augusta Co., Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	South River	
Greenville State Welfare	NA	San.	A-1	0.020	33	5	85	5	3	-	South River	
Stuarts Draft, Va.	Unk	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	South River	
Crompton Shenandoah Co. (Waynesboro, Va.)	NA	Organ.	G-4	0.892	1,870	920	51	230	80	-	South River	
E.I. DuPont DeNemours & Co., Inc. (Waynesboro, Va.)	NA	Organ.	G-4	11.000	7,200	1,800	75	200	750	-	South River	
		Cool.	H-1	15.900	NA	NA	NA	NA	NA	-	" "	
Waynesboro, Va.	20,000	San.	A-1	2.300	1,855	645	63	435	185	-	South River	Will expand
Skyland Swannaroa Corp.	NA	San.	A-2	0.021	35	5	85	5	3	-	South River	
Grottoes, Va.	969	San.	A-1	0.090	150	150	0	29	16	-	South River	Treatment proposed
Reynolds Metals Co. (Grottoes, Va.)	NA	San.	A-2	0.004	7	1	85	1	1	-	South River	
		Cool.	H-1	2.200	NA	NA	NA	NA	NA	-	" "	
General Electric Co. (Waynesboro, Va.)	NA	San.	A-2	0.100*	NA	NA	NA	NA	NA	-	City Sewers	
		Cool.	H-2	0.170	NA	NA	NA	NA	NA	-	South River	

Table V - 10

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Main Stem South Fork Shenandoah River Basin

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	T. PO4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Massanette Springs, Va.	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. S. F. Shen.	
Montevedeo H. S. (Augusta Co., Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. S. F. Shen.	
Merck & Co., Inc. (Elkton, Va.)	NA	I-Biol.	B-2	7.700	10,500	3,500	66	2,890	1,860	-	S. F. Shen (Land in Summer)	Seasonal discharge
Elkton, Va.	1,506	San.	A-1	0.250	360	250	30	61	35	-	S. F. Shen.	
Shenandoah, Va.	1,837	San.	A-1	0.060	100	70	30	15	8	-	S. F. Shen.	
Page Co. H. S. (Virginia)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	S. F. Shen.	
Rockingham Poultry (Alma, Va.)	NA	Food	C-3	0.070	420	300	30	17	10	-	S. F. Shen.	
Stanley, Va.	400	San.	A-1	0.050	80	80	0	16	9	-	Stoney Run	Septic tanks
Luray Motel (Luray, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. S. F. Shen.	
Moyer Bros. (Luray, Va.)	NA	San.	A-2	0.100	2,500	1,700	30	25	14	-	E. Hawksbill Creek	
Va. Oak Tannery Co. (Luray, Va.)	NA	I-Biol.	B-1	0.430	850	500	40	106	61	-	Hawksbill Creek	
I.N. Dovel Co., Inc. (Luray, Va.)	NA	San.	A-2	Unk	Unk	Unk	Unk	Unk	Unk	-	Hawksbill Creek	
Luray, Va.	3,400	San.	A-1	0.280	600	422	30	69	40	-	Hawksbill Creek	
Viscose City (Front Royal, Va.)	400	San.	A-1	0.050	83	21	75	12	7	-	S. F. Shen.	
Amer. Viscose Corp. (Front Royal, Va.)	NA	Organ.	G-3	8.640	13,400	9,350	30	80	400	-	S. F. Shen.	Dis. metals
		Cool.	H-1	0.720	NA	NA	NA	NA	NA	-	" " "	
		San.	A-2	Unk	Unk	Unk	Unk	Unk	Unk	-	Tr. S. F. Shen.	

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Table V - 10 (cont.)

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Main Stem South Fork Shenandoah River Basin (cont.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO_4 (#/day)	TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Old Va. Packing, Inc. (Front Royal, Va.)	NA	Food	C-9	0.018	600	600	0	4	3	-	S. F. Shen.	
		Cool.	H-1	0.120	NA	NA	NA	NA	NA	-	S. F. Shen.	
Allied Chem. Corp. (Front Royal, Va.)	NA	Organ.	G-4	0.190	NA	NA	NA	NA	NA	-	S. F. Shen.	Low pH
Beef Cattle Research (Front Royal, Va.)	NA	Agric.	D-3	0.010	4	1	75	3	2	-	Happy Creek	
Front Royal, Va.	7,950	San.	A-1	1.200	1,700	1,000	40	250	170	-	Happy Creek	

Table V - 11

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Main Stem Shenandoah

Name	Pop. Served	Wastewater Class	Wastewater Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal Of BOD (%)	Effluent T. PO4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Northern Va. Power Co. (Cedarville, Va.)	NA	Cool.	H-1	10.600	NA	NA	NA	NA	NA	-	Shen. River	
Stephen's City E. S. (Stephen's City, Va.)	NA	San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Stephen's River	
Stephen's City, Va.	876	San.	A-1	0.050	83	12	85	12	7	-	Stephen's River	
Berryville, Va.	1,645	San.	A-1	0.250	417	104	75	61	35	-	Dog Run Creek	
H.F. Byrd, Inc. (Berryville, Va.)	NA	Food	C-1	0.060*	NA	NA	NA	NA	NA	-	City Sewers	
Charles Town, W. Va.	3,329	San.	A-1	0.380	633	443	30	93	54	-	Evitt Run	Planning underway; will include town of Ranson, W. Va.
Ranson Fruit Co. (Ranson, W. Va.)	NA	Food Cool.	C-1 H-1	0.040 0.380	Unk	0	NA NA	0	0	- -	Spray Irrigation Evitt Run	
Halltown Paperboard Co. (Halltown, W. Va.)	NA	I-Biol.	B-10	Unk	Unk	Unk	Unk	Unk	Unk	-	Flowing Springs	New plant, technical data not available
U.S. Steel Corp. (Halltown, W. Va.)	NA	Miner. Miner.	I-2 I-2	720.000 500.000	NA NA	NA NA	NA NA	NA NA	NA NA	- -	Shen. River " "	 Quarry drainage
Jones & Laughlin Steel Co. (Millville, W. Va.)	NA	Miner.	I-2	0.600	NA	NA	NA	NA	NA	-	To Quarry	
Bolivar, W. Va.	754	San.	A-1	0.030	50	35	30	7	4	-	Shen. River	
Harper's Ferry, W. Va.	572	San.	A-1	0.030	50	50	0	10	6	-	Shen. River	

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MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Catoctin Creek, Md., Catoctin Creek, Va., Monocacy River (Pa.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal of BOD (%)	Effluent T. PO_4 (#/day)	TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Myersville, Md.	417	San.	A-1	0.030	100	75	25	17	10	-	Catoctin Cr. (Md.)	Primary
Middletown, Md.	1,156	San.	A-1	0.110	160	115	35	65	22	-	Catoctin Cr. (Md.)	Primary
J. Lunne Cornwell Pkg. Co. (Purcellville, Va.)	NA	Food.	C-2	0.110	220	44	80	27	16	-	Catoctin Cr. (Va.)	
Lovettsville, Va.	300	San.	A-1	0.040	67	67	0	10	6	-	Catoctin Cr. (Va.)	
Brunswick, Md.	3,555	San.	A-1	0.400	667	434	35	98	57	-	Potomac River	
Gettysburg, Pa.	10,000	San.	A-1	0.900	2,200	180	92	22	120	-	Rock Creek	Primary
Cumberland TWP, Pa.	600	San.	A-1	0.040	50	8	85	2	1	-	Rock Creek	
Gettysburg Shoe Co. (Cumberland TWP, Pa.)	NA	San.	A-1	0.006	7	1	90	2	1	-	Marsh Creek	
Gettysburg Shoe Co. (Franklin TWP, Pa.)	NA	San.	A-2	0.004	5	1	95	1	1	-	Marsh Creek	
Krouse Foods (Ortana, Pa.)	NA	Food	C-1	0.040	670	21	97	10	6	-		No discharge
Funkhouser Co. (Hamilton TWP, Pa.)	NA	Min.	I-2	0.100	Unk	0	100	0	0	-	Closed System	
Littlestown, Pa.	2,850	San.	A-1	0.310	529	85	84	50	63	-	Alloway Creek	
Fairfield, Pa.	519	San.	A-1	0.020	33	5	85	5	3	-	Spring Run	New plant
Ft. Ritchie (Liberty TWP, Pa.)	1,100	San.	A-1	0.100	190	29	85	25	14	-	Miney Creek	
B.H. Shriver (German TWP, Pa.)	NA	Food.	C-1	0.004	70	7	90	1	1	-		Closed system- No discharge.
Fountaindale	600	San.		0.06	Unk	Unk	Unk	Unk	Unk	-	Cone Br.	Package Plant
Foxville	100	San.		0.01	Unk	Unk	Unk	Unk	Unk	-	Owens Creek	Lagoon
Jefferson	750	San.		0.075	Unk	Unk	Unk	Unk	Unk	-	Trib.-Catoctin Cr.	Secondary

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Table V - 13

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Monocacy River (Md.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal of BOD (%)	Effluent T. PO_4 (#/day)	Effluent TKN (#/day)	Effluent Other (#/day)	Receiving Stream	Remarks
Victor Cullen St. Hospital (Sabillsville, Md.)	600	San.	A-1	0.080	55	8	85	20	11	-	N. F. Friends Cr.	
Emmitsburg, Md.	1,411	San.	A-1	0.210	220	55	75	16	23	-	Fleet Run	Secondary
St. Mary's College (Emmitsburg, Md.)	600	San.	A-1	0.080	145	22	85	7	13	-	Tr. Toms Creek	
Taneytown, Md.	1,587	San.	A-1	0.190	350	120	65	31	25	-	(Spray Irrigation) Piney Creek	Seasonal
Cambridge Rubber (Taneytown, Md.)	NA	Cool.	H-1	0.020	NA	NA	NA	NA	NA	-	Piney Creek	
Westminster, Md.	6,308	San.	A-1	0.800	2,670	410	84	240	153	-	Little Pipe Creek	Secondary
Mount Pleasant Canning (Westminster, Md.)	NA	Food	C-1	0.030	Unk	0	100	0	0	-	Spray Irrigation	Seasonal
Willow Farms (Westminster, Md.)	NA	Food	C-4	0.120	Unk	0	100	0	0	-	Spray Irrigation	
Shriver B.F. Co. (Westminster, Md.)	NA	Food	C-1	0.200	Unk	0	100	0	0	-	Spray Irrigation	Seasonal
New Windsor, Md.	788	San.	A-1	0.050	166	16	90	16	8	-	Dickerson Run	Lagoon
Union Bridge, Md.	800	San.	A-1	0.100	690	28	96	17	17	-	Little Pipe Creek	Lagoon
Thurmont, Md.	2,800	San.	A-1	0.070	117	18	85	17	10	-	Hunting Creek	New plant
Baltimore Brick Co. (Rocky Ridge, Md.)	NA	San.	A-2	0.003	5	1	85	1	0	-	Tr. Owens Creek	
Thurmont Rend. Co. (Thurmont, Md.)	NA	Food	C-2	0.010	Unk	Unk	Unk	Unk	Unk	-	L. Hunting Creek	
J. Austin Fraley (Thurmont, Md.)	NA	Food	C-2	0.010	Unk	Unk	Unk	Unk	Unk	-	L. Hunting Creek	
A.W. Feezer (Silver Run, Md.)	NA	Food	C-2	0.030	Unk	0	100	0	0	-	Spray Irrigation	

Table V - 13(cont.)

Monocacy River (Md.) (cont.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal of BOD (%)	Effluent T. PO_4 (#/day)	TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Woodsboro, Md.	469	San.	A-1	0.050	75	75	0	16	9	-	Israel Creek	No severe
Castle Cheese Co. (Six Bridge, Md.)	NA	Food	C-4	0.001	Unk	0	100	0	0	-	Spray Irrigation	
Walkersville, Md.	1,172	San.	A-1	0.090	115	115	0	29	16	-	Glade Creek	No severe
New Market, Md.	360	San.	A-1	0.030	110	2	99	5	8	-	Davis Br. (Patapsco Basin)	
Camp Detrick (Frederick, Md.)	500	San.	A-1	0.800	340	7	98	60	27	-	Monocacy River	
Frederick, Md.	30,000	San.	A-1	4.680	21,500	9,660	55	1,035	840	-	Monocacy River	New plant
Pine Cliff (Frederick, Md.)	NA	San.	A-1	0.010	17	2	85	2	1	-	Monocacy River	
Eveready Co. (Frederick, Md.)	NA	Miner.	I-5	0.600	5	5	0	25	1	-	Carroll Creek	Neutr. wastes
Corning Fibre Box (Frederick, Md.)	NA	I-Biol.	B-10	0.400	1	1	0	1	1	-	Carroll Creek	
Ideal Dairy Farms (Frederick, Md.)	NA	Food	C-4	0.090	Unk	25	Unk	4	1	-	Monocacy River	
M.J. Grove Lime (Frederick, Md.)	NA	Miner.	I-2	1.100	NA	NA	NA	NA	NA	-	Tr. Carroll Creek	
Alpha Portland Cement (Frederick, Md.)	NA	Miner.	I-2	0.300	NA	NA	NA	NA	NA	-	To Quarry	
Peter Pan Inn (Urbana, Md.)	NA	San.	A-1	0.020	17	3	85	2	1	-	Bush Creek	Package plant

Table V - 13 (cont.)

Monocacy River (Md.) (cont.)

Name	Pop. Served	Wastewater Class	Index	Flow (mgd)	Infl't. BOD (#/day)	Eff't. BOD (#/day)	Removal of BOD (%)	T. PO_4 (#/day)	Effluent TKN (#/day)	Other (#/day)	Receiving Stream	Remarks
Camp Airy	200	San.		0.01	Unk	Unk	Unk	Unk	Unk	-	Owens Creek	Package Plant
Concord Mobile Home Park	170	San.		0.01	Unk	Unk	Unk	Unk	Unk	-	Ballenger Creek	Package Plant
Congress Inn Motel	NA	San.		0.02	Unk	Unk	Unk	Unk	Unk	-		Package Plant
Crestview Estates	240	San.		0.024	Unk	Unk	Unk	Unk	Unk	-	Muddy Run	Package Plant
Frederick Business Properties	200	San.		0.005	Unk	Unk	Unk	Unk	Unk	-	Trib. Tuscarora Cr.	
Lewiston School	600	San.		Unk	Unk	Unk	Unk	Unk	Unk	-	Fishing Creek	
Valley View Mobile Homes	90	San.		0.007	Unk	Unk	Unk	Unk	Unk	-	Trib.-Ballenger	
Point of Rocks, Md.	500	San.		0.05	Unk	Unk	Unk	Unk	Unk	-	Trib.-Potomac R	Package Plant

Table V - 14

MUNICIPAL AND INDUSTRIAL WASTEWATER INVENTORY

Lower Portion of Upper Potomac River Basin

Name	Pop. Served	Wastewater		Flow	Infl't. BOD	Eff't. BOD	Removal of BOD	Effluent			Receiving Stream	Remarks
		Class	Index	(mgd)	(#/day)	(#/day)	(%)	T. PO_4 (#/day)	TKN (#/day)	Other (#/day)		
Purcellville, Va.	1,500	San.	A-1	0.150	400	60	85	37	21	-	Trib. Goose Cr.	
Middleburg - West, Va.	1,000	San.	A-1	0.100	167	25	85	25	14	-	Goose Creek	
- East, Va.		San.	A-1	Unk	Unk	Unk	Unk	Unk	Unk	-	Wanopic Creek	
Leesburg, Va.	2,870	San.	A-1	0.280	466	70	85	70	40	-	Tuscarora Creek	Being expanded
Hazleton Labs (Falls Church, Va.)	NA	I-Biol.	B-2	Unk	Unk	Unk	Unk	Unk	Unk	-	Goose Creek	Lagoon
Goose Creek Country Clubs	NA	San.	A-1	0.008	13	2	85	1	1	-	Goose Creek	
Development Eng. Corp.	NA	San.	A-2	Unk	Unk	Unk	Unk	Unk	Unk	-	Cattail Branch	
Foxcroft School (Loudin County, Va.)	NA	San.	A-1	0.005	4	1	85	1	1	-	Goose Creek	
Weinschel Engr. Co. (Gaithersburg, Md.)	NA	Miner.	I-5	0.001	NA	NA	NA	NA	NA	-	Seneca Creek	Neutr.
Hadley Farms Dairy (Gaithersburg, Md.)	NA	Food	C-4	0.015	Unk	Unk	Unk	Unk	Unk	-	Seneca Creek	
Herndon, Va.	1,960	San.	A-1	0.160	267	40	85	39	23	-	Folly Lick Run	Going to D.C.